RF ARCHITECTURE FOR CELLULAR DUAL-BAND TELEPHONES

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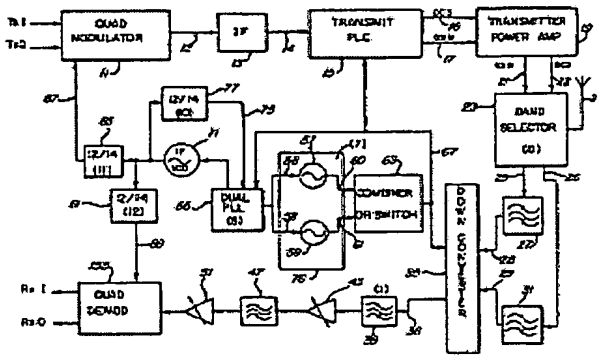
Abstract of **WO9952221**

A dual band RF architecture including a GSM quadrature modulator for modulating an intermediate frequency (IF) wherein the frequency of the modulated IF signal is changed such that one IF is used for the GSM band and another IF is used for the DCS 1800 band. An intermediate frequency (IF) filter with a pass band that covers both the GSM IF and the DCS 1800 IF is connected to the output of the modulator and outputs to a transmit phase lock loop, which translates the IF signal from the IF filter to either a DCS 1800 band radio frequency signal or a GSM band radio frequency signal, depending on the frequency of a local oscillator (LO). The receiver employs a down converter which provides a down converted output signal selected by high side injection for the GSM band and by low side injection for the DCS 1800 band. The down converter outputs



to an intermediate frequency (IF) receiver filter centered at 400 MHz designed to pass either the down converted GSM signal or the down converted DCS signal to demodulation circuitry. A single phase lock loop circuit is used to supply, on a single output, the LO signal for down converting either the GSM receive band or the DCS 1800 receive band, as well as the LO for the transmit phase lock loop.
